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# To Implement a Software Voice - Coding Algorithm Using a Digital Signal Processor

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**Final Report on a Senior Design Project  
To Implement a Software Voice - Coding Algorithm  
Using a Digital Signal Processor**

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Date:               April 20, 1998

## **ABSTRACT**

This document presents the research, design, and implementation of a senior design project to implement a software CVSD voice-coding algorithm using a digital signal processor (DSP). This design project fulfills the requirements of the Electrical and Computer Engineering Technology Department of Indiana University - Purdue University Fort Wayne, Indiana. The CVSD algorithm is implemented using an Analog Devices EZ-Lite development kit and a mixture of assembly and high-level-language software. The EZ-Lite Kit hardware consists of an Analog Devices 1847 Codec and 2181 DSP. The developed software provides device initialization, data processing, data loopback at the input of the DSP, and the CVSD encoder and decoder. The software development tool consists of several programs: an assembler, linker, simulator, debugger, and C-language compiler. The costs and schedule for this senior design project are presented in this report.

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